TICA
Thailand International Cooperation Agency

International Training Courses on

METABOLOMICS

for DRUG DISCOVERY *and* DEVELOPMENT

organized by

Chulabhorn Research Institute and Chulabhorn Graduate Institute

with support from

Thailand International Cooperation Agency (TICA), Ministry of Foreign Affairs, Thailand

Venue: Auditorium, 2nd Floor
Chulabhorn Graduate Institute Building,
Lak Si, Bangkok, Thailand

21-23 | SEPTEMBER 2026

Day 1: 21 Sep 2026

Multi-Omics Perspective and Foundations of Metabolomics

Theme: From Systems Biology to Metabolomics Research

Time	Agenda	Speakers
8:00-9:00	Registration	-
9:00-9:10	Opening Remark	Professor Emeritus Dr. Somsak Ruchirawat
9:10-9:20	Group Photo	-
9:20-10:20	Special Talk 1 - The Evolving Paradigms of Systems Biology and Metabolomics	Professor Emeritus Dr. Geoffrey Cordell
10:20-10:40	*Break (20 minutes)*	-
10:40-11:30	Special Talk 2 - Aligning Omics Technologies with Study Design 1 (Genomics)	Dr. Benjarath Pupacdi Javed
11:30-12:20	Special Talk 3 - Aligning Omics Technologies with Study Design 2 (Transcriptomics, Epigenomics)	Dr. Asif Javed
12:20-13:30	*Lunch*	-
13:30-14:30	Special Talk 4 - Unlocking Drug Discovery Potential from Saline Lands through Spatial Mapping and Metabolomics	Assistant Professor Dr. Rossarin Tansawat
14:30-15:30	Special Talk 5 - Plant Metabolomics Platforms and Opportunities for Drug Discovery and Development	Associate Professor Dr. Nopporn Thasana
15:30-15:45	*Break (15 minutes)*	-
15:45-16:30	Panel Discussion and Wrap-up Session – Future Directions of Multi-Omics Research in Drug Discovery	Metabolomics Staff

Day 2: 22 Sep 2026 - Analytical Technologies, Bioinformatics and AI for Metabolomics

Theme: From Data Generation to Biological Interpretation

Time	Agenda	Speakers
8:00-9:00	Registration	-
9:00-10:00	Special Talk 6 - Co-governance of Epidemics and Infodemics in the AI Era	Professor Dr. George F. Gao
10:00-10:50	Special Talk 7 - Mass Spectrometry for Natural Product Research and Metabolomics	Professor Dr. Prasat Kittakoop
10:50-11:10	*Break (20 minutes)*	-
11:10-12:10	Special Talk 8 - Clinical and Translational Metabolomics: From Discovery to Healthcare Applications	Associate Professor Dr. Sakda Khoomrung
12:10-13:00	*Lunch*	-
13:00-13:50	Special Talk 9 - Curcuminoid–Gut Microbiota Interactions: A Metabolomics Approach for Obesity Health Supplement Development	Dr. Wassana Jamnongkan
13:50-14:40	Special Talk 10 - The Power of Multi-omics	Dr. Asif Javed
14:40-14:55	*Break (15 minutes)*	-
14:55-15:45	Special Talk 11 - Computational Tools for Biomarker Discovery and Precision Medicine	Dr. Korawit Opassathian
15:45-16:35	Special Talk 12 - Metabolomics Insights into Tropical Diseases	Dr. Naphatsamon Uthailak
16:35-17:05	Panel Discussion and Wrap-up Session – Future of AI-Driven Metabolomics and Drug Discovery	Metabolomics Staff

Day 3: 23 Sep 2026 – Applications in Natural Products, Plant Science and Clinical Research

Theme: *Real-World Applications of Metabolomics*

Time	Agenda	Speakers
8:00-9:00	Registration	-
9:00-10:00	Special Talk 13 - Metabolomics Across the Herbal Product Value Chain: From Raw Material Quality to Bioactive Discovery and Biological Response	Professor Dr. Kornkanok Ingkaninan
10:00-10:50	Special Talk 14 - Integrating NMR-Based Metabolomics and STOCSY for Biflavonoid Discovery and Ecological Metabolomics in *Selaginella* Plants	Dr. Wilailak Kaewsri
10:50-11:10	*Break (20 minutes)*	-
11:10-12:10	Special Talk 15 - A Multi-Dimensional Equilibrium Framework with Capacity for Metabolomic Biomarker Integration in Glioblastoma Decision Support	Associate Professor Dr. Rawiwan Charoensup
12:10-13:00	*Lunch Break*	-
13:00-14:00	Special Talk 16 - Fundamentals of Metabolomics and Clinical Application (Precision Medicine)	Assistant Professor Dr. Jutarop Phetcharaburanin
14:00-14:50	Special Talk 17 - Sample Preparation and Quality Assurance in Metabolomics Research	Dr. M.L. Manida Suksawat
14:50-15:05	*Break (15 minutes)*	-
15:05-16:05	Special Talk 18 - Metabolomics and Medicines Security	Professor Emeritus Dr. Geoffrey Cordell
16:05-16:35	Panel Discussion, Wrap-up Session and Workshop Orientation	Metabolomics Staff

Speakers Day1



Professor Emeritus Geoffrey A. Cordell, Ph.D.

Natural Products Inc., Evanston, USA
College of Pharmacy, University of Florida, USA

Professor Cordell earned his Ph.D. from the University of Manchester and completed a postdoctoral fellowship at MIT. During his distinguished tenure at the University of Illinois at Chicago (UIC) from 1972 to 2007, he held vital leadership roles, including Interim Dean of the College of Pharmacy. An esteemed educator, he has directed the research of numerous international scholars, including several Thai academics. He currently serves as President of Natural Products, Inc., advising global institutions and governments on academic and natural product research development.

Associate Professor Dr. Nopporn Thasana



Laboratory of Medicinal Chemistry, Chulabhorn Research Institute
Chemical Sciences Program, Chulabhorn Graduate Institute, Bangkok, Thailand

Completing a Ph.D. in Organic Chemistry from Mahidol University, Dr. Nopporn Thasana is an associate professor at the Chulabhorn Graduate Institute. His research integrates natural products chemistry, metabolomics, and synthetic organic chemistry to advance drug discovery and development.
An internationally recognized scholar, he is a recipient of multiple ICCEOCA Lectureship Awards and the 2019 Chirantan Rasayan Sanstha Gold Medal, with specialized expertise in metabolomics-guided natural product discovery and bioactive metabolites from pteridophytes.



Dr. Asif Javed

Translational Research Unit, Chulabhorn Research Institute, Bangkok, Thailand

Holding a Ph.D. in Computer Science from Rensselaer Polytechnic Institute, Dr. Asif Javed is a computational biologist with over a decade of expertise in multi-omics and integrative analytics for precision medicine. His collaborative clinical research focuses on hematology, rare congenital diseases, and immunology. He is a highly accomplished scholar with over 50 co-authored publications, papers in premier journals such as Nature Methods, Nature Genetics, and Blood.

Speakers Day1



Assistant Professor Dr. Rossarin Tansawat

Department of Food and Pharmaceutical Chemistry, Faculty of Pharmaceutical Science,
Chulalongkorn University, Bangkok, Thailand

Obtaining a Ph.D. in Nutrition and Food Sciences from Utah State University, Dr. Rossarin Tansawat specializes in mass spectrometry-based metabolomics for food and nutrition. A former visiting scientist at UC Davis, she established Chulalongkorn University's Metabolomics for Life Sciences Research Unit in 2023. She is also a co-founder and current secretary of the Thailand Metabolomics Society.



Dr. Benjarath Pupacdi Javed

Translational Research Unit, Chulabhorn Research Institute, Bangkok, Thailand

A computational scientist with nearly two decades of experience specializing in bioinformatics, liver cancer genomics, epidemiology, and data-driven disease modeling. She leverages her computer science background in multidisciplinary collaborations to connect molecular data, clinical insights, and population-level evidence.

Speakers Day2

Professor George F. Gao, Ph.D.



Institute of Microbiology, Chinese Academy of Sciences, Beijing, China

Earning his Ph.D. from Oxford University, Professor Gao is a preeminent virologist, immunologist, and former director-general of the China CDC. He is globally recognized for his foundational work on emerging infectious diseases, notably co-discovering SARS-CoV-2 and pioneering the world's first approved neutralizing antibody and recombinant protein vaccine for COVID-19. He is an elected fellow of the U.S. National Academy of Sciences, the U.K. Royal Society, and the Chinese Academy of Sciences. His high-impact research bridges basic medical sciences with critical global public health advancements.



Professor Dr. Prasat Kittakoop

Chemical Sciences Program, Chulabhorn Graduate Institute, Bangkok, Thailand

Earning his Ph.D. in Biochemistry from the University of Wales, Swansea, Prof. Dr. Prasat Kittakoop specializes in natural products, green, and medicinal chemistry. Recognized as a World Top 2% Scientist by Stanford University since 2020, his prolific research includes 180 peer-reviewed articles with over 6,700 citations (Scopus h-index: 50). In addition to his impactful scientific contributions, he actively serves as an editor and reviewer for multiple academic journals.

Associate Professor Dr. Sakda Khoomrung



Siriraj Center of Research Excellence in Metabolomics and Systems Biology, Faculty of Medicine Siriraj Hospital, Mahidol University, Bangkok, Thailand

Completing a Ph.D. in Chemistry from Karl-Franzens University and postdoctoral training from Chalmers University of Technology, he serves as associate professor and director of SiCORE-MSB. His research combines advanced mass spectrometry, bioinformatics, and computational modeling to explore host and gut-microbial metabolism. Since 2007, he has developed integrated wet- and dry-lab analytical platforms to advance molecular phenotyping across clinical applications, including kidney diseases, vaccines, and nutrition.

Speakers Day2



Dr. Wassana Jamnongkan

National Phenome Institute, Khon Kaen University, Khon Kaen, Thailand

Obtaining a Ph.D. in Medical Biochemistry and Molecular Biology from Khon Kaen University, Dr. Wassana Jamnongkan is an award-winning researcher leading the development of phenomic analytical services, including metabolomics, microbiome, and genomics. She oversees analytical operations and strategic planning for omics service expansion while driving collaborative initiatives to advance translational and precision medicine.

Dr. Korawit Opassathian

National Phenome Institute, Khon Kaen University, Khon Kaen, Thailand



Receiving a Ph.D. from the School of Life Sciences at the University of Warwick, UK, Dr. Korawit Opassathian is a versatile hybrid researcher. Following his postdoctoral tenure at Mahidol University's Faculty of Medicine Siriraj Hospital, he currently serves at the National Phenome Institute. He integrates precise experimental laboratory techniques with practical bioinformatics, specializing in protocol optimization and tackling complex problems through data analysis.



Dr. Naphatsamon Uthailak

Department of Social and Environmental Medicine, Faculty of Tropical Medicine, Mahidol University, Bangkok, Thailand

Completing a Ph.D. in Biotechnology from University of Osaka, Dr. Naphatsamon Uthailak serves as a lecturer specializing in molecular biology, biotechnology, and mass spectrometry-based metabolomics and proteomics. Her current research focuses on producing recombinant therapeutic proteins, screening biomarkers for parasitic diseases, and assessing the impacts of environmental pollutants on microalgae. She is an accomplished scholar recognized with multiple accolades, most recently achieving the 2025 Mahidol University Professional Standards Framework (MUPSF-2) distinction.

Speakers Day3



Professor Dr. Kornkanok Ingkaninan

Department of Pharmaceutical Chemistry and Pharmacognosy,
Faculty of Pharmaceutical Sciences, Naresuan University, Phitsanulok, Thailand

Holding a Ph.D. in Pharmacognosy from Leiden University, Professor Dr. Kornkanok Ingkaninan is a distinguished expert in natural product discovery, metabolomics, and translational botanical product development. Her research integrates advanced LC-MS-based phytochemical profiling, bioactivity-guided discovery, and multi-marker standardization to advance the quality control and evidence-based development of medicinal plants and herbal medicines.

Dr. Wilailak Kaewsri



Chemical Sciences Program, Chulabhorn Graduate Institute, Bangkok, Thailand

Completing a Ph.D. in Chemical Biology from the Chulabhorn Graduate Institute, Dr. Wilailak Kaewsri is a multidisciplinary researcher specializing in organic chemistry, plant metabolomics, and flavoromics. Her versatile experience spans both academic and industrial sectors, including prominent roles at the CPF Food Research and Development Center, BIOTEC (NSTDA), and SiCORE-MSB at Mahidol University. She integrates fundamental chemistry with applied biological research, with peer-reviewed contributions across synthetic methodology, total synthesis, and natural product discovery.



Associate Professor Dr. Rawiwan Charoensup

Director, Medicinal Plants Innovation Center,
School of Integrative Medicine, Mae Fah Luang University, Chiang Rai ,Thailand

Receiving an award-winning Ph.D. in Public Health Sciences from Chulalongkorn University, Dr. Rawiwan is an associate professor at the School of Integrative Medicine and the founding Director of the Medicinal Plants Innovation Center. Her research leverages advanced multi-omics and systems biology –including UHPLC-QTOF-MS metabolomics, SWATH-MS proteomics, and network pharmacology–to decode the mechanisms of complex herbal formulations and translate natural products into evidence-based therapeutics.

Speakers Day3



Assistant Professor Dr. Jutarop Phetcharaburanin

Department of Systems Biosciences and Computational Medicine, Faculty of Medicine, Khon Kaen University, Khon Kaen, Thailand

Asst. Prof. Dr. Jutarop Phetcharaburanin is a systems biologist and phenomics scientist whose work connects multi-omics discovery science with clinical translation and research-infrastructure development in Southeast Asia. He is Assistant Professor of Systems Biology in the Department of Systems Biosciences and Computational Medicine, Faculty of Medicine, Khon Kaen University (KKU), Thailand, and Director of the KKU National Phenome Institute (NPI), which he co-founded. In 2026 he was appointed Acting Associate Dean for Integrative Research and Graduate Studies at the KKU Graduate School, where he also chairs the MSc and PhD programmes in Medical Bioinformatics for Industry (MBIx). He additionally holds an appointment as Adjunct Associate Professor at the Health Futures Institute and Australian National Phenome Centre, Murdoch University, Australia.

Dr.Phetcharaburanin obtained his Ph.D. in Clinical Medicine Research (Computational and Systems Medicine) from Imperial College London, UK, supported by the Royal Thai Government Scholarship, the Imperial College London STRATiGRAD Studentship and a United States Molecular Medicine Fellowship. His research has been recognised at national and international levels. He received the Young Investigator Grant from the National Research Council of Thailand (NRCT); in 2022 he was one of only nine cholangiocarcinoma researchers worldwide awarded the Sarah Bennett Memorial Fellowship by the Cholangiocarcinoma Research Foundation (USA), and in the same year was named a finalist for the British Council UK Alumni Award in Science and Sustainability. In 2024 he was one of six recipients of the Metabolomics Society L.M.I.C. Award, and in 2025 he was invited to become a founding member of the International Society of Phenomics (ISP).

His research focuses on three interlinked themes: (1) diagnostic and prognostic biomarker discovery for cancers and metabolic disorders using multi-omics approaches; (2) the metabolic crosstalk between the host and its microbiota; and (3) the discovery of plant- and bacteria-derived bioactive compounds as pharmaceutical agents through synthetic biology.

Under his leadership, the KKU National Phenome Institute has grown into a frontier research and academic-service platform equipped with sequencing, spectroscopic and bioinformatics technologies, driving medical and agricultural innovation through personalised medicine, precision agriculture and precision nutrition. In August 2026, as NPI Director, he signed a five-year Memorandum of Understanding with the Human Phenome Institute, Fudan University, Shanghai, establishing joint research, academic exchange, training and data sharing in phenomics and multi-omics.

Dr.Phetcharaburanin is a co-founder of the Thailand Metabolomics Society and serves on the executive boards of the Bioinformatics Academic Association of Thailand (BAT) and the Thailand Metabolomics Association (TMA).



Dr. M.L. Manida Suksawat

International College, Khon Kaen University

National Phenome Institute, Khon Kaen University, Khon Kaen, Thailand

M.L. Manida Suksawat serves as assistant dean for Research and Academic Services at the International College and deputy director for Academic Services at the National Phenome Institute, Khon Kaen University. Holding a Ph.D. in Biochemistry and Molecular Biology, her comprehensive expertise spans cancer and natural product research, foodomics, bio-innovation, and advanced NMR and LC-MS metabolomics.